REMARKS

Applicant has amended claims 19 and 39 to provide antecedent basis for "the second constructed fare."

On September 29, 2003, the Examiner Mr. Edward R. Cosimano, Mr. David Baggett and Mr. Craig Stelmach of ITASoftware, Inc. and the undersigned conducted a telephonic interview. Discussed were claim 1, the rejection under 35 U.S.C. 101 and the rejections under 35 U.S.C. 102(b) and 35 U.S.C. 112 second paragraph. Tentative agreement was reached that all of the claims would be allowable over the 35 U.S.C. 101 rejection provided the claims were amended to recite a practical use of the invention. The examiner considered "storing the constructed fare in memory or the persistent storage device of the computer system for use in for use in travel planning or some other supported use. Applicant has amended the claim to recite a travel related activity. This recites a practical use, supported in the specification by way of the examples of travel planning, pricing, faring, etc. and is a use sufficient to overcome the rejection.

Applicant explained the difference between the cited reference and claim 1, pointing out that *inter alia* that determining interior cities that appear with gateway cities in arbitraries for an airline, the arbitraries being published amounts that extend published fares and which cannot be used alone to produce a fare was not described by the reference. The examiner suggested that amendment to include a two-step process of preprocessing and producing would more clearly delineate the invention over the reference.

The examiner also contended that claims 18 and 39 depended on incorrect claims.

The examiner rejected claims 18 and 39 under 35 U.S.C. 112 as being indefinite. Applicant has amended these claims to make them depend on claims 17 and 38 respectively as pointed out by the examiner.

The examiner rejected claims 1-46 and 52-55 under 35 U.S.C. 101 as being directed to non-statutory subject matter.

Claim 1 has been amended to recite, "storing the constructed fare in memory or the persistent storage device of the computer system for use in for use in a travel related activity." Claim 14 has been amended to call for "tangibly storing the constructed fares for use in for use in

a travel related activity." Similar amendments have been made to claims 22, 35, 43 and 52 all of the independent claims.

Claims 1-46 and 52-55 are directed to statutory subject matter. Claim 1 for instance recites: "A method executed in a computer system.' Claim 1 recites a result "storing the constructed fare in memory or the persistent storage device of the computer system for use in for use in a travel related activity" that is tangibly used in a concrete manner that is to produce a constructed fare, (so to permit pricing of an itinerary for travel). Applicant's claims also recite computer preprocessing. Claim 1 for instance recites searching a database having published fares for gateway cities and applying an arbitrary corresponding to one of the interior cities to a published fare ... to produce a constructed fare.

Thus, searching a database recites origin of the data and applying the published fare (found in the database) to an arbitrary manipulates the data. Claim 1 thus does not claim an abstract idea. It positively claims a method of constructing a fare in a computer system. The fares are stored in memory or the persistent storage device. According to the terms recited in the claim, the claim cannot be accomplished by "pen and paper and/or the mind of the user" as argued by the examiner.

Claim 1 also does not lack a claimed practical application. Claim 1 now recites "storing ... for use in for use in a travel related activity."

Moreover, the "type of data" and "the calculations" recited in Claim 1 do indeed affect the operation of the claimed invention. Hence the examiner's reliance on *In re Gulack* is misplaced.

Claim 14 recites tangibly storing the constructed fares ... for use in a travel related activity are proper for similar reasons. Claims 22, 35, 43 and 52 all claim variations on the amendment to claim 14 and are likewise directed to statutory subject matter.

Accordingly the rejection of these claims under 35 U.S.C. 101 as directed to non-statutory subject matter should be removed.

The examiner rejected claims 1-46 and 52-53 under 35 U.S.C. 102(b) as being clearly anticipated by "Construction Processing Logic" (collectively references AQ, AR and AS in the IDS filed by Applicant).

Claim 1 was amended to more particularly point out the invention. Claim 1 now recites preprocessing by determining interior cities that appear with gateway cities in arbitraries for the airline ... searching a database having published fares for gateway cities corresponding to the determined interior cities appearing in the arbitraries ... and producing a constructed fare by applying an arbitrary corresponding to one of the interior cities to a published fare involving one of the gateway cities that corresponds to the determined interior cities appearing in the arbitraries to produce a constructed fare ....

This process is distinct from the list generating process disclosed by the reference. Unlike the reference, the fare construction process recited in Claim 1 makes the computation process more efficient since it takes into consideration that very few cities are actually part of arbitraries. In other words, Claim 1 recites a process that determines interior cities that appear with gateway cities in arbitraries for the airline. This feature is not recognized by the reference. The process recited in Claim 1 can rapidly enumerate constructed fares since it starts only with interior cities known to appear in some arbitraries. Claim 1 also takes into consideration that there is no need to consider all cities in the world for the gateway cites. Rather, it is only necessary to consider those cities as gateways if the city is involved in some arbitrary whose interior city is the city currently being examined.

In "Automated Fare Construction User Guide" the reference mentions aspects of a fare construction process. Similar teachings are set out in the other two references. However, while the reference is somewhat detailed on aspects of certain matching criteria later in the document, it is silent on how it actually proposes to accomplish the extract process as set out in excerpts from the reference below:

> Extract
> A) Compatible published, and arbitrary (addon) components are grouped together by the market/fareclass of the unpublished record they may construct.

B) Every possible constructed record will be attempted.
1) Fares and addons must have compatible OW/RT codes.
2) When the arbitrary components are identical except for the zones, the lowest zoned component is kept and the rest are not considered for construction.

C) Within this group of all possible constructed records, the fare class and currency priorities are assigned and the P11 rules for currency conversion are applied.

Nonetheless, this language does not suggest determining interior cities that appear with gateway cities in arbitraries for the airline ... searching a database having published fares for gateway cities corresponding to the determined interior cities appearing in the arbitraries ... applying an arbitrary corresponding to one of the interior cities to a published fare involving one of the gateway cities that corresponds to the determined interior cities appearing in the arbitraries to produce a constructed fare ... .

Nowhere in these teachings are the actions of applicant's claim 1 suggested.

Claims 2-13 add distinguishing features that are not shown by the reference.

Claim 2 for instance recites that determining interior cities involves accessing a hash table indexed by an airline, interior-city pair to return a list of gateway cities for which an airline has arbitraries that specify the interior city. No such teaching is suggested in the reference.

Similarly claim 4 limits the action of searching for gateway cities by accessing a hash table indexed by an airline, gateway pair to return a list of gateway cities that an airline publishes fares from the determined gateway to another gateway city. No such teaching is suggested in the reference.

Claim 5 combines the novel elements of claims 2 and 4 and thus further distinguishes.

Claims 3 and 6 recite that accessing the hash tables return the lists in constant time, a feature not suggest by the reference.

Claim 9 adds an additional feature that is not suggested by the reference. Claim 9 tests entries by determining if an entry in a construction table was memoized before accessing the construction table. If the entry was memoized, an answer is retrieved from a store of memoized entries to apply to the constructed fare. This applies a processing short cut to further improve computation efficiency and is not suggested by the reference.

Claim 11 recites processing for determining a second set of interior cities that appear with a second gateway city in the published fare for the airline and applying an arbitrary that extends the published fare to a city from the second set of interior cities to produce a three component constructed fare.

Claim 12 recites to perform the method over all determined interior cities and all gateways cities that correspond to the determined interior cities appearing in the arbitraries to produce plural constructed fares.

For at least these reasons claims 1-13 distinguish over the reference.

Claim 14 likewise distinguishes over the reference. Claim 14 recites ... determining interior cities that appear with gateway cities in arbitraries for the particular airline ... ; searching for gateway cities corresponding to the determined interior cities appearing in the arbitraries; and producing fares by applying arbitraries corresponding to the determined interior cities to published fares involving the gateway cities that corresponds to the determined interior cities appearing in the arbitraries to produce the set of constructed fares for the airline.

At least these features of claim 14 and its dependent claims are neither described nor suggested by the reference generally for the reasons discussed above.

Similar amendments have been made to claim 22, 35, 43 and 52 making those claims and their dependent claims distinct over the reference.

Applicant has also enclosed an Information Disclosure Statement citing a preliminary draft entitled: "DATA APPLICATION CONSTRUCTED FARES Version 1.0" from the same ATPCO organization that authored the other cited references, and which appears to have a date of 18 May 2001. Applicant contends that this is not a publication within the meaning of 35 U.S.C. 102(b) and moreover to the extent that Applicant is aware, based on the copyright date of 2001 and the date in the footer May 18, 2001, that this paper is not a valid reference to this case.

Nevertheless, the claims also distinguish over this reference. In section 4 the "DATA APPLICATION CONSTRUCTED FARES Version 1.0" reference is mentioned aspects of a fare construction process. However, while the reference is somewhat detailed on aspects of certain matching criteria applied later in the process, it, like the references of record, is silent on how the

reference actually proposes to accomplish a selection process. The discussion of a selection process is set out in 4.2, which is reproduced below.

> *4.2* ***Selection Process***
> Fare construction begins with a selection process that creates a grouping of potential constructed fares by assembling different fare and add-on components that link the origin and destination cities, or groups of origin and destination cities.
>
> The following sections outline each match element within the constructed fare assembly process. These match criteria determine if the Fare Record and the Add-on Record can combine to create a potential constructed fare.

Nonetheless, this language does not suggest determining interior cities that appear with gateway cities in arbitraries for the airline ... searching a database having published fares for gateway cities corresponding to the determined interior cities appearing in the arbitraries ... applying an arbitrary corresponding to one of the interior cities to a published fare involving one of the gateway cities that corresponds to the determined interior cities appearing in the arbitraries to produce a constructed fare ....

In the following sections of paragraph 4 the reference details matching steps that are required for constructing the fare.

> **4.2.1 Constructed Fares Match**
> The grouping of potential constructed fares is checked for validity. This determines at a high level if the Fare Record and Add-on Record can be combined to create constructed fares.

The reference performs a series of checks including a Carrier Level Match, a Tariff Level Compatibility Match, Fare Origin/Destination to Add-on Origin Compatibility Check, One Way/Round Trip Compatibility Match, Fare Class Compatibility Check, Directionality Compatibility Determination and Zone Compatibility Check (paragraphs 4.2.1.1 through 4.2.1.7).

Nowhere in these teachings are the actions of applicant's claims, as discussed above suggested.

Enclosed is a $110 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: Oct 2, 2003

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